hp StorageWorks Business Copy EVA/MA/EMA Host Agent v2.2 for hp OpenVMS

Product Version: 2.2

Second Edition (February 2004)

Part Number: AA–RUQPB–TE

HP StorageWorks "Business Copy (BC) for enterprise virtual array (EVA), modular array (MA), and enterprise modular array (EMA)" is the new name for the "Enterprise Volume Manager (EVM)" software. This guide describes procedures for installing, reinstalling, and removing the BC host agent software.

For the latest version of these Installation Guide and other Business Copy documentation, access the HP storage web site at: http://www.hp.com/country/us/eng/prodserv/storage.html.

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This installation guide provides information to help you:

■ Understand Business Copy (BC) host agent installation prerequisites.

■ Install BC Host Agent v2.2 for HP OpenVMS software on a host computer in a BC v2.2 network.

■ Reinstall BC host agent software on a host computer.

■ Remove BC host agent software from a host computer.

■ Contact technical support for additional assistance.

"About this Guide" topics include:

Overview

This section covers the following topics:

- Intended audience
- Prerequisites
- Related documentation

Intended audience

This book is intended for use by customers and HP authorized service providers who are experienced with the following:

- SAN fabric configurations
- Host operating system environments
- Storage systems
- Multibus configurations

Prerequisites

Before you install BC Host Agent v2.2 software, make sure you consider the items below.

- Has the BC Server v2.2 software been installed on a storage management appliance (SMA)? Supported SMAs include:

    — Compaq SANworks Management Appliance

    — SANworks by Compaq Management Appliance II

    — HP OpenView Storage Management Appliance III

    If not, install the BC Server v2.2 software on the SMA before continuing. Refer to the *HP StorageWorks Business Copy EVA/MA/EMA Server v2.2 Installation Guide* (T3032–96102).

- Does the host computer on which the BC Host Agent v2.2 software is being installed have visibility to an SMA in the same SAN environment? If not, refer to the *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Network Administration Guide*[1] (T3032–96101).

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1. Hereafter referred to as BC Network Administration Guide.

Related documentation

In addition to this guide, HP provides corresponding information:

■ *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Read Me First*[2] (T3032–99101)

■ *HP StorageWorks Business Copy EVA/MA/EMA v2.2 Update Read Me First*[3] (AA–RQ70G–TE)

■ *HP StorageWorks Business Copy EVA/MA/EMA Server v2.2 Release Notes*[4] (T3032–98101)

■ BC Network Administration Guide

■ *HP StorageWorks Business Copy EVA/MA/EMA Host Agent v2.2 for HP OpenVMS Release Notes*[5] (T3032-98107)

■ BC online Help & User Guide, as part of the BC server software, and on the BC documentation CD-ROM

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2. Hereafter referred to as BC Read Me First.
3. Hereafter referred to as Update BC Read Me First.
4. Hereafter referred to as BC Server v2.2 Release Notes.
5. Hereafter referred to as BC Host Agent Release Notes.

Conventions

Conventions consist of the following:

- Document conventions
- Text symbols
- Equipment symbols

Document conventions

This document follows the conventions in Table 1.

Table 1: Document conventions

Convention	Element
Blue text: Figure 1	Cross-reference links
Bold	Menu items, buttons, and key, tab, and box names
Italics	Text emphasis and document titles in body text
`Monospace font`	User input, commands, code, file and directory names, and system responses (output and messages)
`Monospace, italic font`	Command-line and code variables
Blue underlined sans serif font text (http://www.hp.com)	Web site addresses

Text symbols

The following symbols may be found in the text of this guide. They have the following meanings:

⚠ **WARNING:** Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.

△ **Caution:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Tip: Text in a tip provides additional help to readers by providing nonessential or optional techniques, procedures, or shortcuts.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Equipment symbols

The following equipment symbols may be found on hardware for which this guide pertains. They have the following meanings:

Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

WARNING: To reduce the risk of personal injury from electrical shock hazards, do not open this enclosure.

Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

WARNING: To reduce the risk of personal injury from a hot component, allow the surface to cool before touching.
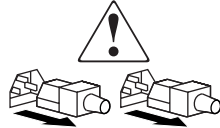
Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

WARNING: To reduce the risk of personal injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.

Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.

Rack stability

Rack stability protects personnel and equipment.

> ⚠ **WARNING:** To reduce the risk of personal injury or damage to the equipment, be sure that:
> - The leveling jacks are extended to the floor.
> - The full weight of the rack rests on the leveling jacks.
> - In single rack installations, the stabilizing feet are attached to the rack.
> - In multiple rack installations, the racks are coupled.
> - Only one rack component is extended at any time. A rack may become unstable if more than one rack component is extended for any reason.

Getting help

If you still have a question after reading this guide, contact an HP authorized service provider or access our web site: http://www.hp.com.

HP technical support

Telephone numbers for worldwide technical support are listed on the following HP web site: http://www.hp.com/support/. From this web site, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP storage web site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at: http://www.hp.com/country/us/eng/prodserv/storage.html. From this web site, select the appropriate product or solution.

HP authorized reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP web site for locations and telephone numbers: http://www.hp.com.

Installation Preparation

1

Installing BC host agent software involves the following major steps:

1. Reading the BC Network Administration Guide for configuration requirements and planning

2. Downloading BC host agent, page 14

Note: Due to a file name length problem, you cannot copy the OpenVMS host agent from the CD-ROM using OpenVMS. You must download the OpenVMS host agent from the HP Website, then, install the host agent following the procedures for the Web download method.

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3. Coordinating Business Copy installation activities, page 15
4. Verifying the Business Copy server configuration, page 16
5. Verifying the host configuration, page 17
6. Preparing for installation, page 20
7. Starting the installation, page 22
8. Completing the installation, page 30

Downloading BC host agent

The BC host agent is available by download from the Business Copy product page website.

1. Visit http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html

2. Click **software & drivers**.

3. Under **tasks for your selected product:**, click the **download drivers and software** link.

4. Under **download software & drivers - specify product name**, click the **business copy upgrade ui eva v2.2 med/doc kit** to access the update download page.

5. Select **OpenVMS 7** from the list provided.

6. Click the **download** button for **HP StorageWorks Business Copy EVA/MA/EMA 2.2 - Host Agents**.

7. Save the BC OpenVMS host agent to the host computer.

When ready, go to the next section.

Coordinating Business Copy installation activities

BC server and BC host agent software are interdependent. Refer to the BC Read Me First for each product to verify the version requirements and compatibility.

Ensure that:

■   The BC host agent installation activities have been coordinated with users of the host

■   The BC host agent version being installed is compatible with the BC server for this BC network

■   The BC server that supports the BC host agent installation is installed or updated before installing the BC host agent

■   The BC server is running while installing the BC host agent

---

Note: HP strongly recommends that the BC server be running, to allow the BC host agent installation software to establish communication with the BC server. If necessary, the BC host agent can be installed without the BC server running.

When ready, go to the next section.

Verifying the Business Copy server configuration

Before installing the BC host agent, verify that the BC server:

■ Has a version level that supports this host agent

■ Remains running during the host agent update

Also, record the following SMA information for the BC server installation:

■ Fully qualified network name (such as MyAppliance.dept.corp)

■ Unqualified network name (such as MyAppliance)

■ IP address (such as 11.22.333.444)

Make sure to have this information available during the BC host agent installation.

To view the network name and IP address of an SMA, browse to the SMA and log in. Both items are shown at the top of the home page.

When ready, go to the next section.

Verifying the host configuration

Before installing the BC host agent, verify that the host has BC-supported configurations and versions of the following:

- Host operating system version
- StorageWorks Solution Software kit
- FC HBAs and drivers
- Multibus failover configuration with the storage controllers
- TCP/IP v5.1 or greater
- Bind resolver
- DECnet for cluster-compatible systems

This BC host agent is cluster-compatible and supports only OpenVMS clusters.

Refer to the BC Network Administration Guide and BC Host Agent Release Notes for specific requirements.

When ready, go to "Installing the Business Copy Host Agent" on page 19 to start the installation.

Installing the Business Copy Host Agent

2

This module assumes that "Installation Preparation" on page 13 has been read and all appropriate steps have been successfully completed. Complete the following procedures in sequence to install a BC host agent:

1. Preparing for installation, page 20
2. Starting the installation, page 22
3. Completing the installation, page 30

Preparing for installation

Complete the following procedures before starting the BC host agent installation.

■ Download the BC OpenVMS host agent from the HP Website

■ Determine the cluster impersonator

Note: To install BC successfully, the host computer must have at least 8,416 blocks of free disk space.

CD-ROM method

Note: Due to a file name length problem, the OpenVMS host agent cannot be copied from the CD-ROM using OpenVMS. Download the OpenVMS host agent from the HP Website, following the procedures in this guide. Then, install the host agent following the procedures for the Web download method.

Web download method

1. On the host computer, open a terminal window and log on as a system user.

2. Locate the HP OpenVMS download file (*bc_22_ovms_ha_install.exe*) on the host computer or LAN.

   If necessary, refer to the BC Read Me First.

3. Create a temporary folder in preparation for extracting the BC host agent software, as the following example illustrates:

   ```
   $ create/dir sys$sysdevice:[temp]
   $ set default sys$sysdevice:[temp]
   ```

4. Copy the download file into the temporary folder.

5. Run the *BC_22_OVMS_HA*.*exe* file.

When ready, go to "Starting the installation" on page 22.

Determine the cluster impersonator

In order for BC to communicate from an OpenVMS cluster with the SMA, BC must be installed on the host in an OpenVMS cluster that is the cluster impersonator. To determine which host is the cluster impersonator, enter the following commands.

```
$ mcr sysman
SYSMAN> set environment/cluster
SYSMAN> do ucx show interface/cluster
```

When ready, go "Starting the installation" on page 22.

Starting the installation

Complete the following procedure to install a BC host agent on a host.

Note: During the installation procedure, press **Return** to choose the default response. Also press **Return** as necessary to scroll through lengthy text screens.

---

1. Enter `product install bc` to start the installation script.

   The script starts the BC host agent installation. Information similar to that shown in Figure 1 displays.

Note: If a previous BC host agent installation currently resides on the host computer, `[Installed]` displays beside the Layered Product text.

```
The following product has been selected:
    HP AXPVMS BC v2.2              Layered Product
Do you want to continue? (Yes/No) [YES] :
Configuration phase starting...
You will be asked to choose options, if any, for each selected product and
for any products that may be installed to satisfy software dependency
requirements.
HP AXPVMS BC v2.2: HA-OVMS v2.2 for HP Alpha OpenVMS
(c) Copyright 1999-2003 Hewlett-Packard Development Company, L.P.

    Hewlett-Packard Company.

    uses license pak
```

Figure 1: Installation confirmation

2. Press **Return** or enter `yes` to continue; enter `no` to exit the installation script.

   If the installation continues, Figure 2 on page 23 displays.

```
=========================================================================
Business Copy EVA/MA/EMA Host Agent v2.2
-------------------------------------------------------------------------


=========================================================================
Introduction
-------------

This script guides you through the installation of Business Copy (BC).
.
.
.
=========================================================================
BC License Agreement
--------------------

Installation and use of Business Copy requires acceptance of the following
License Agreement:

Business Copy EVA & MA/EMA License Agreement

Attention Notice

IMPORTANT: READ CAREFULLY BEFORE USING THIS PRODUCT.
.
.
.
DO YOU ACCEPT THE TERMS OF THIS LICENSE AGREEMENT? (Yes/No) [YES]:
```

Figure 2: Configuration phase, BC Introduction, and license agreement

3. Review the Configuration phase, BC introduction, and license agreement.

4. Press **Return** or enter yes to agree to these terms and continue the installation; enter no to exit the installation script.

   If the installation continues, BC prerequisites information will display (Figure 3).

```
=========================================================================
BC Prerequisites
-----------------

Welcome to the HP StorageWorks Business Copy, BC Host Agent installation
script. This script will install BC on this computer.

Do not proceed until you have:
.
.
.
```

Figure 3: BC Prerequisite information

⚠ **Caution:** Failure to properly address BC preinstallation requirements and compatibility considerations can lead to reduced operational capability and failure of BC jobs.

5. Carefully review the BC prerequisites and make sure each item has been addressed before continuing the BC host agent installation.

Note: If any of the operational considerations have not been addressed, exit the installation, address the items, and then restart the installation.

6. If all BC prerequisites have been addressed, determine the installation folder for the BC host agent software (see Figure 4 on page 25).

Installation folder considerations:

■   For initial installations, choose the BC default folder or an empty host folder.

■   For reinstallations, the default installation folder is `sys$sysdevice$DKCO: [SYS0.SYSCOMMOM.]`.

Note: During a reinstallation, BC overwrites the *osvm.ini* and *sb.ini* files for the previous BC installation. To prevent losing any customized *osvm.ini* or *sb.ini* attribute settings, HP recommends saving these files to an alternate location before reinstalling the BC software. Then, following the BC reinstallation, use these saved files to reapply the customized attribute settings to the new files, if desired.

```
========================================================================
Choose the Installation Folder
-------------------------------

Where would you like to install Business Copy?

Default installation directory: sys$sysdevice$DKC0: [SYS0.SYSCOMMON.]

To install BC to a different directory, exit this installation and define
the pcsi$destination logical. For example, to install in dka0:[test] use:

$define/system pcsi$destination dka0:[test].

Do you want to exit this installation to change the installation path?
(Yes/No) [NO] :

Do you want to start the SWITCHBOARD service immediately after
installation? (Yes/No) [YES] :
```

Figure 4: Installation folder option

7. Press **Return** to continue using the BC default installation folder, or enter
   yes to exit the installation in order to change the installation path.

8. Press **Return** to automatically start the switchboard immediately after the
   installation.

   After the switchboard status is determined, the BC host agent software
   installation begins. Initially, a progress bar is displayed, followed by an SMA
   name question (see Figure 5).

```
==========================================================================
Storage Management Appliance Name
------------------------------------

NOTE: If the installation script cannot detect the entered Storage
Management Appliance name or IP address after three attempts, the
installation script automatically accepts the third entry and saves this
name or IP address in the sb.ini file.

Enter the Storage Management Appliance fully qualified name, unqualified
name, or IP address:
```

Figure 5: SMA name option

9. Enter the fully qualified name, unqualified name, or IP address of the SMA
   that supports this BC host agent.

Note: The SMA name or IP address is required to establish network communication between BC host agents and the BC server. A default SMA name is derived from the SMA serial number:

■ On a first generation SMA model, use the letters *swma* and include the last 6 characters of the SMA serial number.

If the SMA software was restored using the Quick Restore CD v2.0, the default SMA name begins with *sma* and includes all 12 characters of the SMA serial number.

■ On an SMA II model, use the letters *sma* and include all 12 characters of the SMA serial number.

■ On an SMA III model, use the letters *sma* and include all 10 characters of the SMA serial number.

If the default SMA name was changed, identify the current SMA name, as shown in the upper right-hand corner of the SMA software GUI.

For example:

■ If the SMA name is "MyAppliance" and the domain is "dept.com," enter `MyAppliance.dept.com` for a fully qualified name.

■ If the fully qualified name is `MyAppliance.dept.com`, enter `MyAppliance` as the unqualified name.

■ If the SMA IP address is "11.22.333.444," enter `11.22.333.444` for the IP address.

A check is performed to verify communication with the SMA name or IP address:

■ If this check fails, Figure 6 displays.

The check provides the opportunity to continue the BC host agent installation, in the event that the LAN is down or the SMA is offline. This check also allows an incorrect SMA name to be corrected.

```
=========================================================================
Unable to Ping Host
--------------------

NOTE: If a DNS Entry does not exist for this Storage Management Appliance,
add the Storage Management Appliance to the local TCP/IP hosts database:
$TCPIP SET HOST Server Name/Address=IP-Address/Alias=Server Alias

Do you want to continue? (Yes/No) [NO] :

Enter the Storage Management Appliance fully qualified name, qualified
name, or IP address:
```

Figure 6: Unable to Ping Host

— Enter no to return to step 9 and reenter an SMA name or IP address; press **Return** to confirm the SMA name or IP address.

■ If this check succeeds, Figure 7 displays.

```
=========================================================================
Pre-Installation Summary
-------------------------

Please Review the Following Before Continuing:

Product Name:
    Business Copy EVA/MA/EMA Host Agent v2.2

Install Folder:
    BC_default_or_previous_folder

Management Appliance:
    <previous_SMA_name/IP>

Disk Space Information (for Installation Target):
    Required: <8416> blocks
    Available: <1234> blocks

Press return to continue:
```

Figure 7: Pre-Installation Summary

10. Press **Return** to continue; enter quit to exit the installation.

The BC host agent software installation takes place (see Figure 8).

```
========================================================================
Installing...
--------------

WARNING: Do not terminate the installation in progress. Terminating the
process may cause an incomplete set of BC files and directories to remain
on the system. During an abnormal termination, it may not be possible to
completely clean the system for BC files.

*This product does not have any configuration options.

Execution phase starting
.
.
.

========================================================================
Define bc$path and bc$logs
--------------------------

Define bc$path and bc$logs in the syslogical.com file as follows:

$DEFINE/SYSTEM BC$PATH DISK$SYS$SYSDEVICE:[SYS0.SYSCOMMON.BC.]
.
.
.

========================================================================
BC Switchboard Service
----------------------

To automatically start BC switchboard service after a reboot, add the
following lines to sys$manager:systartup_vms.com file:

$bcStart == f$search("SYS$STARTUP:BC$STARTUP.COM")
.
.
.

To automatically stop BC switchboard service after a reboot, add the
following lines to the sys$manager:systartup_vms.com file:

$bcStop == f$search("SYS$STARTUP:BC$SHUTDOWN.COM")
.
.
.
```

Figure 8: Installation process

The BC host agent is now installed. Refer to the BC Host Agent Release Notes
before using BC.

```
========================================================================

Please consult the Business Copy Host Agent Release Notes before using
Business Copy.

To submit comments regarding BC, send an email to BCFeedback@hp.com.


========================================================================
...100%

The following product has been installed:

    HP AXPVMS BC v2.2              Layered Product
```

Figure 9: BC feedback email address

Completing the installation

If the BC host agent was started during installation, HP recommends browsing to the BC network and verifying that the BC host agent has been recognized. Otherwise, perform the verification after manually starting the host agent.

Completing the installation topics include:

- Reusing customized OSVM.ini or SB.ini settings following a reinstallation, page 30
- Manually starting and stopping the Business Copy host agent, page 30
- Browsing to the Business Copy network, page 31
- Verifying that the Business Copy host agent Is recognized, page 31
- System files modified during installation and removal, page 31

Reusing customized *OSVM.ini* or *SB.ini* settings following a reinstallation

If an existing BC network used customized settings in the *osvm.ini* or *sb.ini* files, these customized attributes must be reapplied following a BC host agent reinstallation.

> **Note:** During a BC host agent reinstallation, all customized settings in the existing *osvm.ini* or sb.*ini* files are overwritten.

To reapply the previous customized attributes, make sure to save the *osvm.ini* or *sb.ini* files to another location before reinstalling the BC host agent. This approach allows access to the previous customized settings and, if desired, the ability to reapply the customized settings in the new *osvm.ini* or *sb.ini* files.

Manually starting and stopping the Business Copy host agent

Refer to the BC Network Administration Guide for the procedures to manually start or stop the daemons on a BC host agent.

Browsing to the Business Copy network

To browse to the BC network, the browsing computer must have a BC-supported browser with a Java™ Runtime Environment (JRE) installed.

From a host computer, browse to BC and let the BC server detect the JRE environment. Where possible, the BC server provides help for downloading the correct JRE.

Refer to the BC Network Administration Guide and BC Server v2.2 Release Notes for details.

Verifying that the Business Copy host agent Is recognized

To verify that a BC host agent is being recognized by the SMA, complete the following procedure:

1. Browse to the SMA and log in.

   Refer to the BC Network Administration Guide, if necessary.

2. Click **Tools**.

3. Click **business copy**.

   The BC GUI displays.

4. Click **Help**.

5. Click **About Business Copy**.

   Verify that the BC version number is 2.2.

6. Click **Resources**.

7. Review the Resources page to verify that the host is included in the host resources display.

   A successful installation displays the BC host agent on this page.

8. Continue to the next host-specific BC host agent installation guide to add other BC host agents to this BC network.

System files modified during installation and removal

During BC host agent installation, the following host system file is modified: *tcpip$etc:services.dat*.

A sample entry added to the *tcpip$etc:services.dat* file includes:

```
switchboard  4991/tcp
```

During the BC host agent removal process, this file is modified again to remove the BC entry added during the installation process.

Removing the Business Copy Host Agent

3

Removing BC host agent software involves the following major steps:

Coordinating removal activities

Removing a BC host agent requires coordination to make sure that the software is removed cleanly from the host.

⚠️ **Caution:** Make sure that all personnel using applicable storage systems that contain BC are informed of the impending BC removal. Removing a BC host agent while the host agent is running a BC job can result in reduced operational capabilities and loss of data.

Ensure that:

■ No BC jobs that involve the host are running or "undoing" during the removal

■ No BC jobs that involve the host are scheduled to run or "undo" during the removal

■ Removal activities have been coordinated with BC users and other operations

Be aware that:

■ Stopping a BC host agent prevents the host computer from being recognized by the BC network

■ Stopping a BC host agent prevents any jobs involving that host from running successfully

When ready, go to the next section.

Starting the removal

To remove the BC host agent from a host computer, complete the following procedure.

Note: During the removal procedure, press **Enter** to choose the default response

---

1. Open a terminal window and log on as a system user.

2. Enter $ product remove bc to initiate the removal script.

   A confirmation questions appears (Figure 10).

```
$ product remove bc

The following product has been selected:
    HP AXPVMS BC v2.2                    Layered Product

Do you want to continue? (Yes/No) [YES] :

The following product will be removed from destination:
    HP AXPVMS BC v2.2-B1020             DISK$SYS$SYSDEVICE: [VMS$COMMON.]
```

Figure 10: BC package removal confirmation prompt

3. Press **Return** (or enter y) to confirm the BC package removal; enter n to exit the removal script (see Figure 10).

```
Portion done: 0%...20%...40%
                       [evmcl] <date_and_time>: evmcl is setting default
values. Please wait.

        .
        .
        .
        .
Stopping Broadcast Daemon...
Broadcast Daemon Stopped...
...60%...70%...80%...90%...100%


The following product has been removed:
    HP AXPVMS BC v2.2-B1020             Layered Product
```

Figure 11: BC Removal status

The command prompt returns when the BC host agent removal is complete.

Completing the removal

After the BC host agent is removed, the computer can no longer participate in BC jobs. Running any BC job that involves this computer causes the job to fail.

HP recommends planning for the disposition of each BC job that involves this computer. For example:

- Delete the job (if the job will not be valid again).

- Change the job (to eliminate all references to this host computer).

- Leave the job as is (if the job might be used again).

From a BC network perspective, a BC host agent removal is not complete until all impacted BC jobs are resolved.

Reinstalling the Business Copy Host Agent

4

Situations may arise where a change in the BC network requires a change to BC server information stored by the BC host agent. For example:

■ The SMA is renamed or replaced.

■ The SMA IP address changes.

■ The BC server software is moved to a different SMA.

■ A network name changes.

■ A host computer is reassigned for use with a different SMA.

For these situations, reinstalling the BC host agent may be appropriate.

> **Caution:** Make sure that all personnel involved with using applicable storage systems that contain BC are informed of the impending BC reinstallation. If not properly planned and coordinated, reinstalling a BC host agent while the host agent is involved in a running a BC job can result in reduced operational capabilities and loss of data.

Two reinstallation methods exist:

■ One-step reinstallation—With this method, reinstall the BC host agent using "Installing the Business Copy Host Agent" on page 19. When prompted, allow the installation script to remove the existing host agent, and then install the BC host agent.

■ Two-step reinstallation—With this method, remove the BC host agent, using "Removing the Business Copy Host Agent" on page 33. Then reinstall the BC host agent, using the procedure in "Installing the Business Copy Host Agent" on page 19".

glossary

This glossary defines terms used in this guide or related to this product and is not a comprehensive glossary of computer terms.

Agent

In a client/server system, a program that performs information gathering or processing tasks on behalf of a client or server. Agents often communicate with other agents to perform a collective task on behalf of the user.

StorageWorks agents run on storage system host computers and can be accessed by StorageWorks clients to control and manage the storage system.

BC Network

A network that consists of BC-enabled computers that are connected to a common LAN and to a BC-compatible StorageWorks storage system.

BCV

Business Continuance Volume. A generic term for a storage unit that is created from a standard production unit. A BCV unit can subsequently be used in production tasks, such as backups, application migration, data mining, and testing. A key feature of a BCV unit is that the unit can be accessed while the production volume remains online for normal I/O. The term *BCV unit* does not imply the use of any specific technology.

Client

A computer or program that requests a service of another computer in a client/server system.

Daemon

Diagnostic and execution monitor. Pronounced "demon." A program usually associated with a UNIX® system that performs a utility (housekeeping or maintenance) function without being requested or even known by the user.

Device Manager

A Web-based storage environment manager that enables users to configure and monitor StorageWorks controllers. A device manager or element manager resides on the SMA.

See also Element Manager.

Element Manager

A Web-based storage environment manager that enables users to configure and monitor StorageWorks controllers. A device manager or element manager resides on the SMA.

See also Device Manager.

Host

In StorageWorks storage system environments, the controlling computer to which a storage system is attached.

Instance

The presence of a program or set of related programs in a computer or storage system. In a BC network, only one BC server instance is allowed (loaded on the SMA), but many BC host agent instances are allowed (one instance per host operating system computer).

Job (BC job)

A file created by BC that represents a user request to perform a task or series of tasks. For example, the BC job named *stor1_backup_daily_sales* might:

1. Replicate a storage unit by the clone method to create BCV units.

2. Mount the BCV units on a server.

3. Start the tape backup of the BCV units.

BC jobs are created by using the Job Create page of the GUI. Jobs can be run from the GUI, the EVM Command Line, script files, or a scheduler.

Node

A generic term for an addressable unit, such as a computer or peripheral device attached to a network. In BC, a BC-enabled computer that is connected to the BC network.

OpenView

An HP line of software products that provides storage management solutions, data protection and recovery, automatic performance tuning, storage virtualization, and other features for multivendor storage environments.

SAN

Storage Area Network. A dedicated, high-speed subnetwork of storage devices that are available to servers on a LAN or WAN. As storage devices are added to the SAN, they become accessible to the servers in the larger network.

SANworks

A Compaq line of software products that provide storage management solutions, data protection and recovery, automatic performance tuning, storage virtualization, and other features for multivendor storage environments.

See also OpenView.

Server
A computer or program that provides a service to other computers in a client (host agent)/server system. Servers often run continuously, waiting for requests from clients.

SMA
See Storage Management Appliance and Storage Management Appliance Software.

Storage Management Appliance
A host-independent server product designed to connect directly to the SAN fabric. The SMA and SMA software provide a centralized point for managing and monitoring SAN elements, including HP switches and storage arrays.

See also Storage Management Appliance Software.

Storage Management Appliance Software
SMA software installed on SMA hardware that provides a GUI for accessing the monitored SAN environment. This software also provides a launch site for a variety of value-added applications and provides navigation links to directly manage storage components on the SAN.

Storage System
From the perspective of a host, each addressable StorageWorks controller (or controller pair) and their attached physical disks.

StorageWorks
An HP line of hardware storage solutions for multivendor server environments.

TCP/IP
Transmission Control Protocol/Internet Protocol. A suite of communications protocols used to connect host computers to the Internet.

Undo (BC Job)
A special job file that is automatically created by BC for "undoing" steps that have been completed in a user-created job. For example, the job named *undo_stor1_backup_daily_sales* could be run after a tape backup was completed. The undo could unmount the BCV units and return their disks to the pool of free storage resources.

Unit
In StorageWorks storage systems, a logical volume identifier that the controller uses when a container is mounted on a host computer. For example, the unit identifier *D1* could represent a RAID 0+1 striped mirror set that is mounted on a host computer. StorageWorks disk units begin with the letter "D" and tape units begin with the letter "T."

Volume
A generic term for a storage unit, such as a hard disk, floppy disk, disk cartridge, CD-ROM, or tape cartridge.

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